ECC Ozone Sonde

Instrument: ECC ozone sonde
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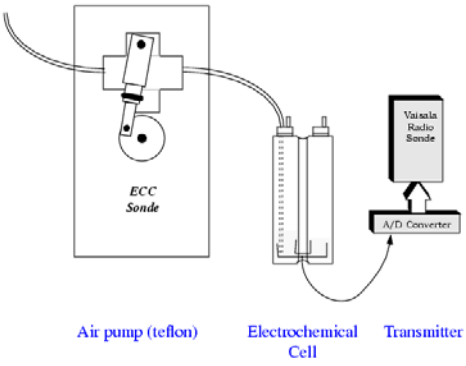
Measurement Description: The ozonesonde is an electrochemical concentration cell (ECC) that senses ozone as is reacts with a dilute solution of potassium iodide to produce a weak electrical current proportional to the ozone concentration of the sampled air. Ozone partial pressure and mixing ratio are calculated from this measurement using temperature and measured flowrate of the pump, as well as ambient pressure. The ozone sonde directly interfaces with the NOAA/CMDL frost-point hygrometer and provides a simultaneous profile of ozone.



Platform:	Usually small rubber or plastic balloons, flown together with the frost-point hygrometer
Accuracy:	5-10%
Response Time:	Depends on altitude, typically 30-50 sec
Size:	20x20x25 cm
Weight:	0.5 kg

Reference:

Komhyr, W.D., R.A. Barnes, G.B. Brothers, J.A. Lathrop,, and D.P. Opperman, Electro-chemical concentration cell ozonesonde performance evaluation during STOIC 1989, J.Geophys. Res., 100, 9231-9244, 1995.

Johnson, B. J., S. J. Oltmans, H. Vömel, H. G. J. Smit, T. Deshler, and C. Kröger, ECC ozonesonde pump efficiency measurements and sensitivity tests of buffered and unbuffered sensor solutions, *J. Geophys. Res., 107,* 10.1029/2001JD000557, 2002.